

REMARKS/ARGUMENTS

Reconsideration of this application is respectfully requested in view of the foregoing amendments and discussion presented herein.

1. Allowance of Claims 15-17 and 20.

Applicant notes with appreciation that Claims 15-17 and 20 are allowed.

2. Rejection of Claims 1-3, 13,14, 21-23, and 33 under 35 U.S.C. § 103(a).

Claims 1-3, 13,14,21-23, and 33 were rejected under 35 U.S.C. § 103(a), as being unpatentable over Bohm (6,520,104) in view of McGarvey (4,989,750), Dodson (5,960,981) and in further view of Legare (6,686,003).

Claims 1 and 21 are independent claims. The Examiner contends that,

“Legare teaches a liquid fire resistant solution of water glass and a hydrated salt (high temperature silicate gel)(46) that remains liquid and is removable in liquid form. Legare uses this gel over foam to keep contents of container below 125 degrees F during a fire in order to keep contents inside from burning (col. 1 ln. 20-30).”

Applicant respectfully submits that the Examiner has not established a *prima facie* case of obviousness with regard to Claim 1 and 21.

“To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.” (MPEP 2143)

(a) The prior art references do not teach or suggest all the claim limitations.

“To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.” *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) (MPEP 2143.03).

Applicant respectfully traverses the Examiner's contention that Legare teaches a fire resistant solution that remains liquid. Legare teaches two materials that are injected

into interstitial spaces of a fire resistant container; a fire resistant material and a phase change material. In both cases, the material is injected in liquid form then solidifies.

(i) The first material is a combination of sodium silicate (water glass), an alkali metal salt (e.g. potassium acetate) and a polyvalent metal salt (e.g. calcium chloride). "These insulation materials can be generally described as a solid silicate gel..." (col. 6 ln. 13-14). When mixed, "This combination forms a very dense, rigid material which contains over 50% water, has superior heat resistance and heat duration properties, and which retains or actually improves its structural integrity during fire exposure." (col. 3 ln. 15-19). The general process for mixing the material is described starting on line 39, column 12 including, "The purpose of this final step is to facilitate rapid solidification of the gel as it flows into place inside the walls of the plastic shell, Thus it begins to solidify within several seconds instead of several minutes..." (col. 12 ln. 56-59) Thus the silicate gel is mixed and poured into the interstitial space as a liquid that subsequently solidifies. It remains solid when exposed to the heat of fire. It does not remain liquid and is not removable from the interstitial space in liquid form.

(ii) The second material is a phase change material such as a hydrated salt or wax which changes between a solid and liquid at a temperature between about 100 and 124 degrees F. (col. 8, ln. 33-40) This material is selected to be used as a solid and for its ability to absorb significant heat energy (heat of fusion) while changing from a solid to a liquid in a fairly constant temperature range. (col. 3 ln. 58-59) Because the containers in Legare are contemplated for use in indoor ambient conditions, the phase change material in the interstitial space is present in solid form at temperatures below 100 degrees F. Further, in order to maintain the contents at the desired fairly constant temperature range, the phase change material must be in solid form before exposure to the elevated heat of a fire.

Therefore, there is no teaching, motivation or suggestion to use a fire resistant solution that remains liquid in Legare.

In McGarvey, "After positioning of all three tanks shown, expansible thermal

barrier material is injected via nozzle 244, into space 217a, 217b and 217c and may expand therein as foam..." (col. 3:11-14), and "The barrier material cures in situ, after its injection and expansion. Usable thermal barrier material include Styrofoam, VERMICULITE, and the like." (col. 3:20-22). The liquid injected in McGarvey hardens or cures in situ. The hardened material does not remain liquid and cannot be removed in liquid form to access the inner tank for inspection or repair or to move the tank.

Applicant's fire resistant material is a mixture of fire block gel and water that remains in liquid form and resists convection when exposed to heat [0049]. It remains liquid, even below freezing if combined with propylene glycol [0049]. Thus Applicant's invention recites one or more elements that are not taught or suggested in Legare or McGarvey. Further, there is no motivation or suggestion to substitute Applicant's fire resistant solution for the solid materials in Legare or McGarvey.

(b) There is no motivation or suggestion to combine the references.

"The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)

As discussed in 2(a) above, McGarvey teaches a solid fire resistant material in the interstitial space of the tank. Legare discloses two materials, both used in solid form, to protect the contents of the fire resistant container. The Examiner has not cited any motivation, suggestion or teaching to combine the references or modify McGarvey or Legare to use a fire resistant solution that remains liquid.

(c) The proposed modification would render Legare unsuitable for its primary purpose.

"If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) (MPEP 2143.01)

In Legare, the first material, the silicate gel, forms a solid in the interstitial space and remains solid when exposed to the heat of fire. The second material, the phase change material, is initially present in solid form. It is selected for its ability to change from a solid to a liquid while absorbing heat in a fairly constant temperature range. In order to function properly and maintain the temperature range of the container contents, the phase change material must be in solid form before exposure to the heat of the fire.

In order for the phase change material in Legare to remain in liquid form, the container would need to be maintained in an environment above 100 degrees F. However, as a liquid, the phase change material would no longer have the ability to absorb heat in a fairly constant temperature range and thus could not protect the contents of the container.

Substituting a liquid that remained liquid in the interstitial space of Legare would change the principle of using a phase change material to keep the contents in a fairly constant temperature range and render it unsuitable for the purpose described. Therefore, there is no motivation, suggestion or teaching in Legare to use a fire resistant liquid that remains in liquid form.

In view of the accompanying remarks above, Applicant believes that this ground for rejection has been sufficiently addressed and overcome, and respectfully requests reconsideration and withdrawal of this ground for rejection and that allowance of these independent claims and all claims depending therefrom be indication in the next Office Action on the merits in this Application.

3. Claims 2-3, 14, and 22-23. These claims depend variously from Independent Claims 1 and 21. Applicant believes that Claims 1 and 21 are in condition for allowance and discussed in 2 above. Therefore Applicant submits these dependent claims should be considered allowable as a result of the allowability of their antecedent independent claims.

4. Regarding Claims 2, 3, 22 and 23.

The Examiner contends that McGarvey discloses steel walls that are about 10

gauge (1/8-1/4 inch thick). In regards to 316 stainless steel, the Examiner states that,

"It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416. It is well known in the art that 316 stainless steel has good corrosion resistance, workability and great strength. Therefore it would have been obvious to one of ordinary skill at the time of the invention was made to modify Bohm's tank with the stainless steel walls of McGarvey in order to have a strong corrosion resistant tank."

Applicant respectfully submits that the Examiner has not established a *prima facie* case of obviousness with regard to Claims 2, 3, 22 and 23.

"To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations." (MPEP 2143)

Applicant contends that the Examiner has not established a suggestion or motivation in Bohm, McGarvey Dodson or Legare to substitute type 316 stainless steel as a tank wall material. Applicant further contends that the Examiner has not provided a prior art reference that teaches type 316 stainless steel in a fire resistant tank.

(a) The examiner has not established a suggestion or motivation to use type 316 stainless steel.

"The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999)." (MPEP 2143.01)

The Examiner has not cited a reference with the motivation or suggestion to substitute type 315 stainless steel. In fact, none of the references mention corrosion resistance, workability or strength as a problem or disclose a desire to use different tank materials. Therefore, there is no teaching, suggestion or motivation to modify the tank

materials in Bohm, McGarvey, Dodson or Legare and use type 316 stainless steel.

(b) The examiner has not provided a prior art reference that teaches type 316 stainless steel.

"To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). (MPEP 2143.03)"

None of the references cited above contain the term "stainless steel." There is no teaching, suggestion or motivation in the cited references to modify the tank materials or use type 316 stainless steel to arrive at Applicant's invention.

Therefore, the aforementioned claims recite one or more limitations not taught or suggested by the cited references. Applicant believes that this ground for rejection has been sufficiently addressed and overcome, and respectfully requests reconsideration and withdrawal of this ground for rejection and that allowance of these claims and all claims depending therefrom be indicated in the next Office Action on the merits in this Application.

5. Claims 13 and 33.

Examiner contends that,

"Regarding claims 13 and 33, McGarvey teaches glass fiber walls, are reinforced walls, resin impregnated. He teaches fiberglass walls for lightweight tank construction (col. 2 ln. 60-64). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to add a fiber glass mesh coated with an intumescent paint to Bohm's tank to lower the overall weight of the container in order to improve portability."

In response, Applicant respectfully traverses Examiner's contention that the fiber glass mesh in Applicant's invention is for the purpose of lowering the overall weight of the container in order to improve portability. Applicant's outer tank walls are preferably made of type 316 stainless steel and are about ¼ inch thick [0038]. "The outside surface of top wall 22, side walls 24, and end walls 26 of outer tank 20 are covered by a layer of fire resistant fiberglass mesh 80. The fiberglass mesh 80 is in turn covered by

a coat of intumescant paint 82." [0048]. Thus the fiberglass mesh is not a lower weight containment structure but a fire resisting layer on the outside surface of the walls of the tank. Claims 13 and 33 depend from Independent Claims 1 and 21 respectively. Applicant believes that Claims 1 and 21 are in condition for allowance as discussed in paragraph 2 above. Therefore Applicant submits these dependent claims should be considered allowable as a result of the allowability of their antecedent independent claims.

6. Claim 14.

Examiner contends that the fire resistant material taught in McGarvey is the same as THERMOLAG 3000. In response, Applicant amended Claim 14 in the previous office action response to remove the reference to THERMOLAG 3000. Claim 14 depends from Independent Claim 1. Applicant believes that Claim 1 is in condition for allowance as discussed in paragraph 2 above. Therefore Applicant submits dependent claim 14 should be considered allowable as a result of the allowability of its antecedent independent claim.

7. Claims 12 and 32.

Claims 12 and 32 were rejected under 35 U.S.C. § 103(a), as being unpatentable over Bohm (6,520,104) in view of McGarvey (4,989,750), Dodson (5,960,981) and in further view of Neuscheler (3,995,168). Claims 12 and 32 depend from Independent Claims 1 and 21 respectively. Applicant believes that Claims 1 and 21 are in condition for allowance as discussed in paragraph 2 above. Therefore Applicant submits these dependent claims should be considered allowable as a result of the allowability of their antecedent independent claims.

8. Objection to Claims 4, 5, 7, 9-11, 24-25, 27, 29-31.

Applicant notes with appreciation that the aforementioned claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The aforementioned claims depend from independent Claims 1 and 21 and Applicant believes that Claims 1 and 21 are in

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condition for allowance as discussed in paragraph 2 above. Therefore, Applicant will retain the aforementioned claims in their current form pending allowance of independent Claims 1 and 21 or the next office action on the merits of the application.

9. Claim 35.

Claim 35 was added in the previous office action response and recites, "wherein said fire resistant solution remains liquid and is removable from said interstitial space in liquid form." This claim recites additional limitations to allowed Claim 15 to more particularly claim the invention. Support for Claim 35 is found in paragraph [0049] of Applicant's specification. Since Claim 15 has been allowed, Claim 35 should, *a fortiori*, be allowed.

10. Amendments Made Without Prejudice or Estoppel.

Notwithstanding the amendments made and accompanying traversing remarks provided above, Applicants have made these amendments in order expedite allowance of the currently pending subject matter. However, Applicants do not acquiesce in the original ground for rejection with respect to the original form of these claims. These amendments have been made without any prejudice, waiver, or estoppel, and without forfeiture or dedication to the public, with respect to the original subject matter of the claims as originally filed or in their form immediately preceding these amendments. Applicants reserve the right to pursue the original scope of these claims in the future, such as through continuation practice, for example.

11. Conclusion.

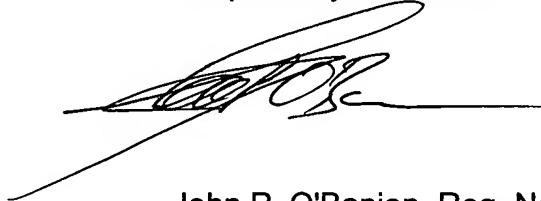
Based on the foregoing, Applicants respectfully request that the various grounds for rejection in the Office Action be reconsidered and withdrawn with respect to the presently amended form of the claims, and that a Notice of Allowance be issued for the present Application to pass to issuance.

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In the event any further matters remain at issue with respect to the present application, Applicants respectfully request that the Examiner please contact the undersigned below at the telephone number indicated in order to discuss such matter prior to the next action on the merits of this application.

Date: 8/16/06

Respectfully submitted,

A handwritten signature in dark ink, appearing to read 'John P. O'Banion', is written over a horizontal line.

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